Website to Promote Early Detection of Breast Cancer "www.thinkhealth.com"

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Abstract
We developed and studied a Website to promote breast cancer screening and allow women to access personalized risk and screening information. The site also provides a database of risk and screening information with multimedia enhancement, and direct interaction with experts and online communities. The site was studied to measure its effectiveness in motivating screening intentions and behaviors among a group of women subjects.

Introduction
Leap of Faith Technologies was funded by the National Institutes of Health[1] to develop a Website promoting breast cancer screening behaviors for early detection. The site was designed by Leap of Faith, and software development was contracted to IMO. Dr. Kepic was the medical coordinator supporting the "Ask the Doctor" feature. Our goal was to measure the effectiveness of the Website in motivating screening intentions and behaviors among a group of women subjects. Using the Theory of Planned Behavior as our basis, we measured changes in knowledge, attitudes, and intentions regarding breast cancer screening as a result of using the program, and consequent changes in screening behavior.

Evaluation
To evaluate the program's use and effectiveness in a variety of settings, we provided access to thinkhe@lth.com via kiosks located at nine test sites in the Chicago area. These included medical offices, a national drug store chain, hospitals, and a community college. A sample of 749 women was recruited. Participants were randomly assigned to test or control groups and completed surveys at pre-test, post-test, and six months following the intervention. The test intervention consisted of a fifteen-minute session using the Website. The control intervention involved reading printed materials (such as pamphlets, fliers, and instructional booklets) available from the National Cancer Institute, American Cancer Society, and other sources for an equivalent amount of time.

Results
Results validated the applicability of the Theory of Planned Behavior for the study, showing a positive correlation between intentions to engage in screening at the post-test survey and reported screening behavior at follow-up six months later. The Website was shown to be an effective tool for communicating breast cancer screening information, with significant increases in measures of attitudes, intentions, knowledge, subjective norms, and perceived behavioral control. On most measures used in the data analysis, the control and test interventions were equally effective. However, the Website showed advantages in increasing intentions to do breast self-examination and in reducing anxiety about getting mammograms.

Among women who reported doing breast-self exams (BSE), the Website was more effective in strengthening intentions to maintain a screening regime than were the printed materials. Also, women who used the Website reported lower anxiety about breast cancer screening than women who used the printed materials. Knowledge scores of women who used the Web site increased from pre-test to post-test, and stayed consistent over time. Scores of women in the control group increased initially, but then decreased over time.

Post-test and follow-up survey results from test group participants indicate that the most valuable features of the Website were the interactive, personalized ones. The risk calculation feature was rated as the most useful feature, and was the most highly used feature as well.

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